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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/798,567 | 03/12/2004 | Toguto Maruko | SAT 199 | 6520 |
| 23995 | 7590 | 07/11/2005 | EXAMINER | |
| RABIN & Berdo, PC 1101 14TH STREET, NW SUITE 500 WASHINGTON, DC 20005 | | | ROSE, KIESHA L | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2822 | |

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/798,567 | MARUKO, TOGUTO | |
| | Examiner | Art Unit | |
| | Kiesha L. Rose | 2822 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 March 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) _____ is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-22 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 12 March 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/12/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the filing of the application.

Drawings

Figure 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,4-5 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Rostoker et al. (U.S. Patent 5,729,894).

Rostoker discloses a ball grid array (Fig. 12) that contains a plurality of connection terminals (520) to be connected to a board (506) and a plurality of test terminals (520d/e) on a joint surface thereof to said board, wherein a first area where said connection terminals are arranged at predetermined pitches in a lattice and a second area where said test terminals are arranged at pitches narrower than said predetermined pitches in a lattice are placed, where the connection and test terminals are solder balls

The second area is placed in the center of the joint surface and first area is placed in the periphery of joint surface so as to surround the second area

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1,2,4-5,7-12 and 22 are rejected under 35 U.S.C. 102(a) as being anticipated by Ando (JPO 2000-068403).

Ando discloses a ball grid array (Abstract) that contains a plurality of connection terminals (14) to be connected to a board (11a) and a plurality of test terminals (13) on a joint surface thereof to said board, wherein a first area where said connection terminals are arranged at predetermined pitches in a lattice and a second area where said test terminals are arranged at pitches narrower than said predetermined pitches in a lattice are placed, where the connection and test terminals are solder balls

The second area is placed in the center of the joint surface and first area is placed in the periphery of joint surface so as to surround the second area

The second area is placed in the periphery and first area surrounds the first area.

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The second area is placed on a high heat buildup circuit since the second area is used for heat radiation (Abstract)

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3,7-9,13-18 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al. (U.S. Patent 6,815,621).

Park discloses a chip scale package (Figs. 16 and 17) that contains a plurality of connection terminals (52) to be connected to a board and a plurality of test terminals (53) on a joint surface thereof to said board, wherein a first area where said connection terminals are arranged at predetermined pitches in a lattice and a second area where said test terminals are arranged at pitches narrower than said predetermined pitches in a lattice are placed, where the connection and test terminals are solder balls and lands (Fig. 17 (58/59)) and can be mounted to ground (Column 1, lines 54-61)

The second area is placed in the periphery of joint surface and first area is placed to surround the second area

The first area is formed at a plurality of places and second area is placed so to isolate first area in the plurality of places

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker in view of Park.

Rostoker discloses all the limitations except for the terminals to be lands.

Whereas Park discloses a chip scale package (Fig. 17) with connection terminals (58) and test terminals (59) where the connection terminals have a first pitch and the test terminals have a second pitch and the terminals are lands. The connection terminals and test terminals are lands for connection of signal lines to the lands in the adjacent row/column. (Abstract) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Rostoker by incorporating the connection and test terminals to be land for connection of signals lines as taught by Park.

Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando in view of Park.

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Ando discloses all the limitations except for the terminals to be lands. Whereas Park discloses a chip scale package (Fig. 17) with connection terminals (58) and test terminals (59) where the connection terminals have a first pitch and the test terminals have a second pitch and the terminals are lands. The connection terminals and test terminals are lands for connection of signal lines to the lands in the adjacent row/column. (Abstract) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Ando by incorporating the connection and test terminals to be land for connection of signals lines as taught by Park.

Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker.

Rostoker discloses all the limitations except for the second area to be placed in the four corners of the surface and the first area is placed in an area except for four corners. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the second area to be placed in the four corners of the surface and the first area is placed in an area except for four corners, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70 (1950).

Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando.

Ando discloses all the limitations except for the second area to be placed in the four corners of the surface and the first area is placed in an area except for four corners.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the second area to be placed in the four corners of the surface and the first area is placed in an area except for four corners, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70 (1950).

Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park.

Park discloses all the limitations except for the second area to be placed in the four corners of the surface and the first area is placed in an area except for four corners. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the second area to be placed in the four corners of the surface and the first area is placed in an area except for four corners, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70 (1950).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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